

# Anchorage Amateur Radio Club Newsletter



**Next General Meeting**  
**SUSPENDED**  
**Radio Science and Operations**  
**Center**  
**6721 Raspberry Road**  
**Anchorage, AK**



**Keep up with the AARC at [www.kl7aa.org](http://www.kl7aa.org)**

## **AARC Changes in Response to COVID-19:**

### **Meetings and Events**

Effective 3/17/2020: Group activities at the RSOC have been suspended. This includes Working Wednesdays and Saturdays, board meetings, general membership meetings, finance meetings, development committee meetings, and group gatherings with outside entities that had been previously scheduled. Contact [info@kl7aa.org](mailto:info@kl7aa.org) with any questions.

### **Changes to RSOC Operations and Procedures**

3/17/2020: Group gatherings at the RSOC for the purpose of scheduled activities such as participation in SHARES as well as acting as net control for the South Central Simplex Net have been modified. Operators should not report to the RSOC unless they have coordinated with Station Manager TJ Sheffield, KL7TS. Contact [info@kl7aa.org](mailto:info@kl7aa.org) with any questions.

## Anchorage ARC VEC Suspends ALL In-Person Examination Sessions

March 16, 2020. Effective immediately, the Anchorage ARC VEC has suspended **ALL** in-person examinations until May 1, 2020. We are monitoring the Coronavirus situation and will resume in-person testing when and where it is safe to do so based on the recommendations from the CDC and other government authorities. Our Volunteer Examiners' health and safety is our highest concern and this decision is not taken lightly.

On a closing and positive note, our remote testing program is still available. If you would like to consider a remote testing opportunity, please visit our website at: <https://kl7aa.org/vec/remote-testing/> to learn more.

Additionally...

## Anchorage ARC VEC Suspends VE Applications:

Effective Monday, March 23rd, 2020 the Anchorage ARC VEC suspended applications for VE accreditation through May 1st, 2020. **Further, we are NOT accepting applications for additional remote VE's.** We have an adequate number of VE's willing to support our remote testing effort at this time.

If an applicant submits a proctor that needs to become a VE in their request for remote testing, the applicant and/or proctor must contact the VEC Chairman via email at [vec@kl7aa.org](mailto:vec@kl7aa.org) to request that the VE Accreditation form be sent to their selected proctor. We apologize for any inconvenience this may cause and thank you for your continued support and patience.

73,  
Brandin S. Hess – AL6I  
Chairman, Anchorage ARC VEC

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## Message from Matanuska Amateur Radio Association (KL7JFU)

Though meetings are currently postponed, here is a message about meeting location from Roger Hansen KL7HFQ:

Meetings are not held in the basement of St. John's Church, but the basement of Good Shepherd Lutheran Church @ 501 E. Bogard Road (Just east of the Main Street in Wasilla and across from Wasilla Middle School).

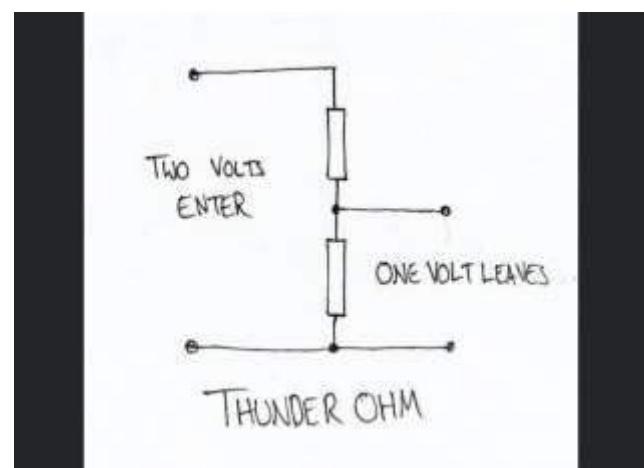
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*Now for a little laughter:*

### Some temporary (humorous) Q-codes for the pandemic:

QLD: I am locked down.  
QUA: I am quarantined.  
QPD: I am in the middle of a pandemic.  
QTP: I have toilet paper. Want to trade for a new car?  
QFC: I am flattening the curve.  
QHG: I need a hug.  
QSH: I am sheltering in place.  
QHS: I have hand sanitizer. Want to trade for two new cars?  
QSD: I am observing social distancing.  
QCV: I hate Coronavirus.

(from Reddit-unknown creators)



ANCHORAGE AMATEUR RADIO CLUB  
BOARD MEETING  
February 18, 2020  
Radio Science Operation Center (RSOC)  
6721 Raspberry Road  
Anchorage, AK  
**APPROVED**



The meeting was called to order at 7:02 PM by Vice President TJ Sheffield KL7TS

A quorum was established.

**BOARD MEMBERS PRESENT:**

Dave Webb N9AIG, [TJ Sheffield KL7TS](#), [Keith Clark KL7MM](#), [Walter Yankauskas KL7WY](#)

**BOARD MEMBERS PRESENT VIA TELECONFERENCE:**

John Lime III KL4OF, [Kent Petty KL5T](#), Lara Baker AL2R, [Matt Ostrander KL4QH](#), [Rich Gillin AL4S](#)

**GUESTS/NON-VOTING MEMBERS PRESENT VIA TELECONFERENCE:**

Brandin Hess AL6I

**NON-VOTING MEMBERS/GUESTS PRESENT**

**EXCUSED BOARD MEMBERS**

[Richard Tweet KL2AZ](#), Mathew Notte WL4DX, Alice Baker KL2GD, Wiggi Tozzi KL0R

**UNEXCUSED BOARD MEMBERS**

**REQUEST FOR AGENDA ITEMS/CHANGE IN ORDER**

TJ Sheffield KL7TS requested that we add Alaska Search and Rescue Association (ASARA) to the agenda.

**TIME CRITICAL ITEM(S)**

None

**REPORTS**

**VE PROGRAM**

Brandin Hess AL6I indicated that he has several items to bring before the board. The first thing Brandon wants to bring up is that he is still working on becoming a COLEM. We are still waiting on the FCC to respond to our request to be a COLEM. At this point we have no indication at all from the FCC as to next steps.

We have received a request from an individual in Fairbanks if he could take the Commercial Operator License examination test remotely. Apparently, this test is a requirement for a job he is seeking. We were unfortunately unable to help him because we are not, at this point, a licensed COLEM testing site.

Secondly, we have another club that would like to join our remote VE testing program. This is the Big South Fork Amateur Radio Club (BSFARC) in Huntsville, Tennessee. Brandin Hess AL6I will be having a Q&A session with that club.

Thirdly, our remote licensing program has historically been restricted to Alaska. Under the rules of part 97 we could expand remote licensing testing. This past month we had nine requests to do remote testing in various areas. Brandin Hess AL6I is requesting permission from the board to pursue remote testing to areas other than Alaska. The onus is placed on the requester, for the remote testing, to answer several questions so that we are sure we are within the rules of part 97. With some discussion, Lara Baker AL2R made a motion to pursue additional remote testing. Matt Ostrander KL4QH seconded the motion. The motion passed unanimously. Matt Ostrander KL4QH added that remote testing was already happening for the Commercial Operator License examination test (COLEM). This appears to be a strong precedent.

Finally, there is a testing session on March 4th. The individual is coming in from Cold Bay.

## **SECRETARY REPORT**

The January 21st Board Meeting minutes were presented along with the February 6th general membership minutes. With minor corrections noted and made, a motion was made by Lara Baker AL2R and seconded by Keith Clark KL7MM to accept the minutes as corrected. The motion carried unanimously.

## **TREASURER REPORT**

Kent Petty KL5T presented a profit & loss report and the balance sheet for the club. These reports will be generated for every board meeting. The club is solvent.

## **FINANCE COMMITTEE**

Keith Clark KL7MM provided TJ Sheffield KL7TS data for the financial burn down chart. We also talked about doing a CD ladder. The airport lease has stayed the same and we have not experienced a rent increase. We're also working with the development committee to produce a letter to send out to potential donors.

## **GRANT REQUESTS**

There were no grant requests this last period. We did complete the application for Pick.Click.Give for 2021.

## **GAMING**

Lara Baker AL2R indicated that we are continuing to look for someone to partner with and utilize our gaming permit.

## **BYLAWS COMMITTEE**

Lara Baker AL2R indicated that there is no new work on bylaws. A signed and sealed bylaw still needs to be produced.

## **TRUSTEE REPORT**

Keith Clark KL7MM indicated there was no activity this period. We should be coordinating with an activities calendar. Dave Webb N9AIG indicated there were no requests to use the KL7G callsign. We are looking for additional participants to help support the South-Central Simplex Net on Wednesday evenings.

## **PROJECTS COMMITTEE**

TJ Sheffield KL7TS indicated that the snow load broke both of our Hastings Tel-o-pole hot sticks. The broken sections were removed, and the antenna was put back up in the air with the remaining sticks 10' to 15' off the ground. In the spring, these will be replaced with guyed fiberglass masts.

## **DEVELOPMENT COMMITTEE**

Lara Baker AL2R indicated that they are keeping track of grant possibilities. He is also looking at seeing how the Combined Federal Campaign is doing. We should start getting checks in April. We should also be informed in April what we will receive from the Pick.Click.Give campaign

## **BUILDING COMMITTEE**

Keith Clark KL7MM talked about the adopt a room program and maintenance of those areas. He went on to say he's developing a spreadsheet for the next board meeting and people can sign up for specific areas. Matt Ostrander KL4QH has been working with Matt Notte WL4DX to set up an electronic lock for the front door. This would be activated by a Key FOB and tied into the building alarm system.

Walter Yankauskas KL7WY presented a detailed sketch of the RSOC operations room. The sketch details individual panels, floor penetration locations, tables and chairs, wall outlets, and some cable routes. Parts and pieces have been labeled too.

## **MEMBERSHIP COMMITTEE**

Rich Gillin AL4S said last year's membership numbers concluded with 162. 120 of those lived in Alaska and have voting rights. So, 12 members at a membership meeting is a quorum. It is Rich's goal to get the membership up to at least 200. The CiviCRM database is clean now. We're still tracking life members to be sure they are not deceased. There was a discussion around keeping membership fees and donations to the club separate. Donations are donations, membership dues are membership dues. A recommendation was made to increase life membership dues.

## **EDUCATION COMMITTEE**

Kent Petty KL5T is targeting late March for a Technician class. Kent Petty KL5T would like to have help delivering the course work for this class. We received a request from the homeschool group to attend their fair. The fee of \$50 was covered by Kent. This same group would like a tour of the RSOC and an agenda for our classes. There could be 30+ people with an age range of five years old through 18 years old. A trailer set up would be nice also for a demonstration for the group at the fair. Spring break is March 6 through March 15. John Lime III KL4OF reminded everyone that there is a gun show March 28th and 29th. This show would be another opportunity to let people know about the homeschool fair and club membership.

## **EQUIPMENT REPORT**

TJ Sheffield KL7TS indicated that Bob Raymond W1ZKA brought in a donation of an Atlas radio in the original box. This is a bit of an antique, but it appears to be brand-new.

## **EMCOMM**

Keith Clark KL7MM indicated it is a good opportunity to operate on government frequencies on Wednesday mornings at 0630 to help with the SHARES net. All members are welcome.

## **OLD BUSINESS**

**01.** TJ Sheffield KL7TS indicated that the board round-robin was working well for general membership guest presentations. TJ Sheffield KL7TS indicated Keith Clark KL7MM had secured an individual to talk about solar power at the next general membership meeting. Lara Baker AL2R indicated that he would investigate a presentation from the FBI regarding their communications.

**02.** Adopt a room was covered under building committee.

**03.** To date, we do not have a champion to do a Ham Fest. If we wait too long, we will miss out on free advertising in QST.

## **NEW BUSINESS**

- 01.** The March general meeting program was covered.
- 02.** Craigslist items to sell; we do have a donated dishwasher that is used but we were told that it is operational (located in a box in the women's lavatory). John Lime III KL4OF indicated he would take pictures of the dishwasher and get it posted on Craigslist. John also recommended that we pursue Alaska auction company so that we can list ham radio gear nationally. Historically this organization has great success in moving equipment.
- 03.** ASARA (Alaska Search and Rescue Association) membership; we have two club members that are members of this organization. Tom Plawman KL4RQ (president) and Eric Cannon KL4VA both feel that the club would be a good fit for this organization. As a club having a membership, the upside is that we would be more involved in search and rescue. The downside is there is a fee. Brandon Hess AL6I asked if there are requirements to be a member in this organization. TJ Sheffield KL7TS indicated the group operates under an Incident Command System and ICS training would be recommended. Note that this training is free online. This is a 24 x 7 commitment. Keith Clark KL7MM requested that Eric Cannon KL4VA come to the board meeting and explain to the board what some of the requirements would be. Residency in Anchorage would not be a prerequisite. A letter of understanding would not be required as ASARA has that document in place. We're looking at capping the membership into ASARA at a total of 19 individuals.

## **ADJOURNMENT**

The meeting adjourned at 8:12 PM.

Respectfully submitted as recorded on 2/18/2020 by Dave Webb N9AIG, AARC Secretary.

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### **Introducing your new Newsletter Editor:**

#### **Morgan Schoenecker KG7SEQ**

I was first introduced to amateur radio while volunteering for a bicycle tour in Montana in 2013. I returned in 2015 with my technician license in tow and have volunteered with radio operations for Cycle Greater Yellowstone every since.



I'm currently studying for my General class license, learning Morse code, and one of my ultimate goals is to contact the ISS!

I am an adult and pediatric forensic nurse and work with APD SVU & CACU, as well as AST and FBI investigators. I have my PPL, and love talking all things aviation. I'm originally from Seattle but have called Anchorage home for nearly 5 years.

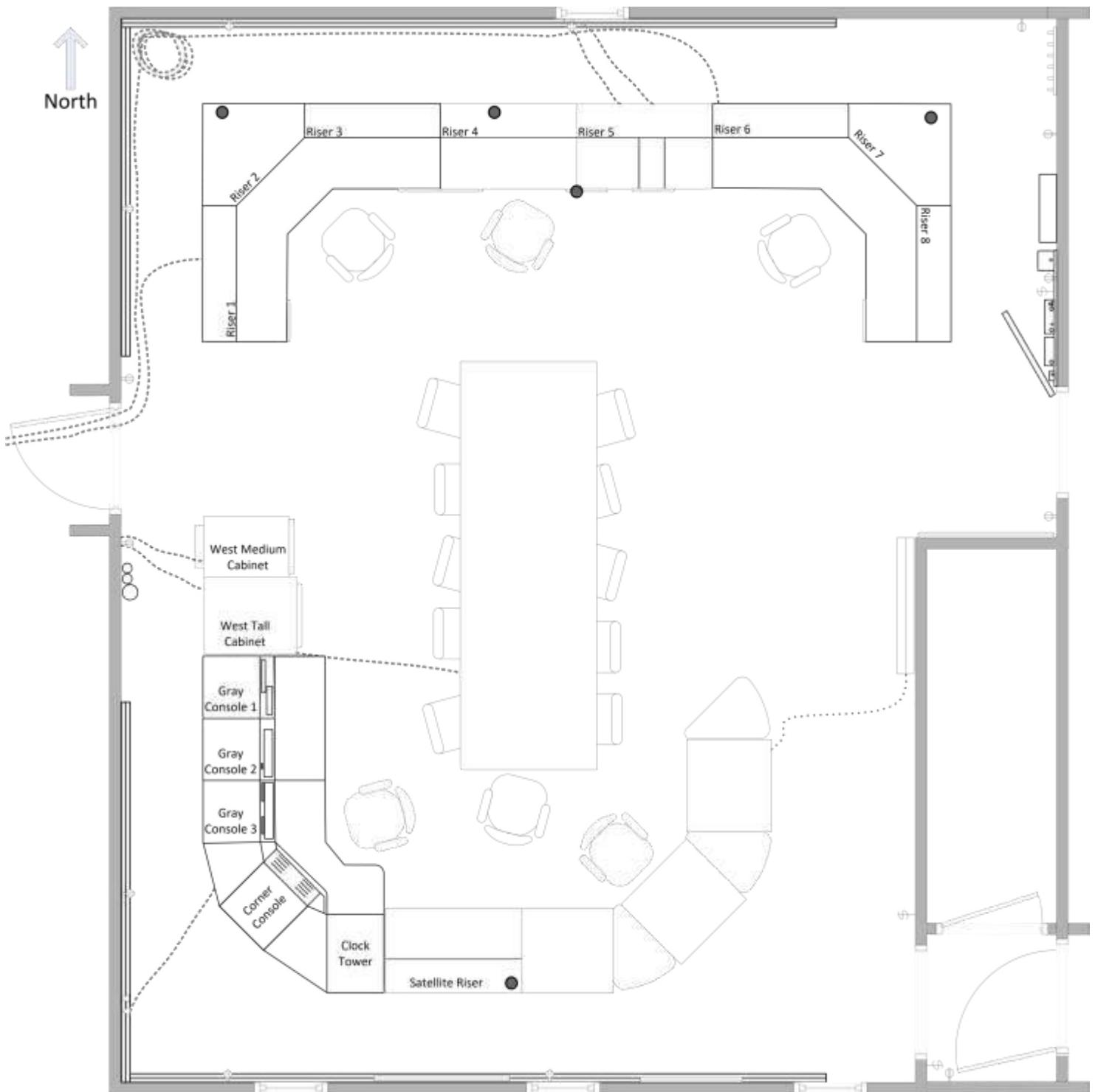
I would like to start highlighting a different member of AARC each month in the newsletter. This would include brief interview about what got you interested in amateur radio, some of your current projects, or future goals! Let me know if you would like to be featured.

If you have any ideas for the newsletter feel free to reach out!

Morgan KG7SEQ

[Editor@kl7aa.org](mailto:Editor@kl7aa.org)

# AARC RSOC Operations Room



ANCHORAGE AMATEUR RADIO CLUB

MEMBERSHIP MEETING

March 5, 2020

Radio Science Operation Center (RSOC)

6721 Raspberry Road

Anchorage, AK

**APPROVED**



**Call to Order**

The meeting was called to order at 7:06 PM by President Lara Baker AL2R. There were 12 members and 2 guests in attendance. Of the 12 members, 9 indicated that they are ARRL members.

A membership quorum was established by the membership sign-in sheet.

Introductions were made for the members and guests

**Business**

Lara Baker AL2R indicated that the VE program is doing testing via computer. The candidate comes in and sits down, enters their login script and immediately starts the test. The person sitting next to them during the test will have a completely different test. During the test, the proctors of the test know everyone's progress and upon completion know immediately whether they passed or not. This works out very well not only for the candidate but for the proctors of the test session. We are the only organization in the country that we know of that do testing in this manner. We are also currently doing testing in Maine and Tennessee.

We also have a letter of intent from UAA to be a proctor for their remote college exams.

The good news tonight is that we received a grant that was approved by the Anchorage Mayor in the amount of \$5,187 that is to be used for education.

In the last few weeks, we have met with the Civil Air Patrol and they plan to use our facility for their meetings. They have also volunteered their time to help at the RSOC for various tasks.

FEMA and Homeland Security have been to our facility for tours and have been impressed with our facility. They were present for our SHARES net on Wednesday morning. As part of the FEMA meeting, we are going to be specifically mentioned in their Annex 10 which is part of the emergency plan of the state, which sets us up for a lot of grants. So, this is good news.

A word of caution regarding online scams. If you receive an email from GCI regarding late payment or service termination do not click on any of the links in that email. Immediately delete the email and call GCI's number from their website. You can also hover over the links (don't click) to see where they go. Some links go directly to China and it is a scam.

**Presentation**

Tonight's guest speaker is Karl Solberg from Renewable Energy Systems talking about solar energy. Karl Solberg's presentation:

Carl has been with Renewable Energy Systems for about six years. Renewable Energy Systems provides complete solutions in the renewable energy sector by partnering with premier suppliers with products designed for Alaska's unique environment. Renewable Energy Systems has had master distributorships in place for the products used in system designs for over 10 years. We can recommend and price specific products for your unique project.

Solar energy can easily be used to power your remote cabin and/or radios. The downside of solar here in Alaska is of course the winter months. In the winter months you'll still need to have a backup generator to charge your batteries. In the summertime, solar power is quite competitive. This is mostly due to the high cost per kilowatt of utility power. Solar

power can also be used in your RV. In the summertime, in Alaska, we have more sun than Arizona.

Battery technologies currently for stationary sources are predominantly lead-based although lithium batteries are catching up quickly because of their high cycle life. An advantage of lithium-based technology is higher charging rates than that of lead-based technology. A disadvantage of lithium is they cannot be charged at lower temperatures whereas lead-based technology can be charged at lower temperatures. Lithium technologies can be discharged to almost zero where lead-based technologies should only be discharged down to 50% capacity. Lithium batteries are considerably lighter than lead-based batteries.

Consideration should be given to using Polar Wire products because they manufacture cable that is suitable for Alaska's environment. Their cable remains flexible down to 50 below zero.

Six months out of the year solar power will work great to keep your batteries topped up here in Alaska. For four months out of the year it will be a little iffy and finally for two months out of the year solar is not suitable.

A little caution with wind power because Anchorage does have ordinances about the amount of land you need so that if the tower comes down it comes down on your land. Another issue is in Anchorage the wind is either blowing way too hard or not enough. Anchorage, in general, is not a good area for wind generation because of municipal ordinances. Wind generation can also be very noisy. Solar power is quiet.

Utility power here in Anchorage has become much cleaner and more reliable over the years.

Once you get beyond the potential of 32 V., municipal ordinances require permits and a licensed electrician to be doing the wiring.

Solar companies now in Anchorage are reputable. Historically there are some horror stories out there and there were very poor installations.

EMI/RFI issues can be a problem. Usually these issues come along with less expensive products. If you buy a reputable charge controller you should not have these issues.

Our usual design is 1.2 times the maximum load. Karl cautions against going any higher to try to offset winter months. When you do the math, the economics will not come out. Be careful of online calculators because they don't know Alaska. Because of the winter months Alaska is a different situation than the lower 48. Our installations have shown that you can offset about 60% to 70% of your electric bill using solar panels on your roof. The average home in Anchorage uses about 500 kWh per month. That results in about one hundred dollars a month electric bill. With 13 panels at 325 W per panel at a cost of \$14,000 (turnkey) you can expect that savings. There are federal tax incentives that can partially offset that cost.

A sincere thank you goes out to Karl Solberg from Renewable Energy Systems for his presentation above and his willingness to share his knowledge with the AARC.

Reference: <https://www.renewablealaska.com/>

John Lime III KL4OF indicated that there is a volunteer opportunity coming up to help at the Anchorage gun show at the Sullivan Area hosted by the Alaska Gun Collectors Association on March 28<sup>th</sup> and 29<sup>th</sup>. John is sponsoring a table that will have information about the AARC and some amateur radio gear.

Door prizes were awarded.

There was not a tech talk this evening.

The meeting adjourned at 8:17 PM. Respectfully submitted as recorded and transcribed by Dave Webb N9AIG (AARC Secretary) on March 5, 2020.

## AGM BATTERY BANK CAPACITY



Battery Model	Individual Battery Weight Wet (lbs)	Individual Battery Amp Hours (100-hr rate)	Battery Voltage	Multiplied by		Total Number of Batteries	Equals	Total System Voltage	Multiplied by	Individual Battery Amp Hours (100-hr rate)	Equals	Total Battery Bank Watts	50% DOD Realistic (Usable) Wattage
				x	=								
31-AGM	69	111	12	x	=	12	x	111	=	1332		666	
S6-275AGM	75.9	275	6	x	=	12	x	275	=	3300		1650	
8D-AGM	155	254	12	x	=	12	x	254	=	3048		1524	
S6-460AGM	127	460	6	x	=	12	x	460	=	5520		2760	
S2-1275AGM	127	1275	2	x	=	12	x	1275	=	15300		7650	
31-AGM	69	111	12	x	=	24	x	111	=	2664		1332	
S6-275AGM	75.9	275	6	x	=	24	x	275	=	6600		3300	
8D-AGM	155	254	12	x	=	24	x	254	=	6096		3048	
S6-460AGM	127	460	6	x	=	24	x	460	=	11040		5520	
S2-1275AGM	127	1275	2	x	=	24	x	1275	=	30600		15300	
31-AGM	69	111	12	x	=	48	x	111	=	5328		2664	
S6-275AGM	75.9	275	6	x	=	48	x	275	=	13200		6600	
8D-AGM	155	254	12	x	=	48	x	254	=	12192		6096	
S6-460AGM	127	460	6	x	=	48	x	460	=	22080		11040	
S2-1275AGM	127	1275	2	x	=	48	x	1275	=	61200		30600	





**Trojan**  
BATTERY COMPANY

*Clean energy for life.*

Trojan Battery Model	Individual Battery Weight Wet (lbs)	Individual Battery Amp Hours (100-hr rate)	Battery Voltage	Muliplied by	Total Number of Batteries	Total System Voltage	Muliplied by	Individual Battery Amp Hours (100-hr rate)	Total Battery Bank Watts	50% DOD Realistic (usable) Wattage
				=	=					
T105	62	250	6	x	2	12	x	250	3000	1500
SPRE-06-255	67	250	6	x	2	12	x	250	3000	1500
SSIG-06-475	114	475	6	x	2	12	x	475	5700	2850
SSIG-06-490	125	490	6	x	2	12	x	490	5880	2940
SPRE-02-1255	119	1255	2	x	6	12	x	1255	15060	7530
T105	62	250	6	x	4	24	x	250	6000	3000
SPRE-06-255	67	250	6	x	4	24	x	250	6000	3000
SSIG-06-475	114	475	6	x	4	24	x	475	11400	5700
SSIG-06-490	125	490	6	x	4	24	x	490	11760	5880
SPRE-02-1255	119	1255	2	x	12	24	x	1255	30120	15060
T105	62	250	6	x	8	48	x	250	12000	6000
SPRE-06-255	67	250	6	x	8	48	x	250	12000	6000
SSIG-06-475	114	475	6	x	8	48	x	475	22800	11400
SSIG-06-490	125	490	6	x	8	48	x	490	23520	11760
SPRE-02-1255	119	1255	2	x	24	48	x	1255	60240	30120



## SOLAR BATTERIES

Surrette Battery Model	Individual Battery Weight Wet (lbs)	Individual Battery Amp Hours (100-hr rate)	Battery Voltage	Multiplied by		Total Number of Batteries	Total System Voltage	Multiplied by	
				Individual Battery Amp Hours (100-hr rate)	Multiplied by			Individual Battery Watts	Total Battery Bank Watts
S6-GC2-HC	68	294	6	x	=	12	294	3528	1764
S6-L16-HC	123	512	6	x	=	12	512	6144	3072
S2-L16-SC	130	1503	2	x	=	12	1503	18036	9018
6-CS-25PS	318	1156	6	x	=	12	1156	13872	6936
4-KS-25PS	315	1904	4	x	=	12	1904	22848	11424
2-KS-33PS	208	2490	2	x	=	12	2490	29880	14940
2-Y'S-31PS	285	3232	2	x	=	12	3232	38784	19392
S6-GC2-HC	68	294	6	x	=	24	294	7056	3528
S6-L16-HC	123	512	6	x	=	24	512	12288	6144
S2-L16-SC	130	1503	2	x	=	24	1503	36072	18036
6-CS-25PS	318	1156	6	x	=	24	1156	27744	13872
4-KS-25PS	315	1904	4	x	=	24	1904	45696	22848
2-KS-33PS	208	2490	2	x	=	24	2490	59760	29880
2-Y'S-31PS	285	3232	2	x	=	24	3232	77568	38784
S6-GC2-HC	68	294	6	x	=	48	294	14112	7056
S6-L16-HC	123	512	6	x	=	48	512	24576	12288
S2-L16-SC	130	1503	2	x	=	48	1503	72144	36072
6-CS-25PS	318	1156	6	x	=	48	1156	55488	27744
4-KS-25PS	315	1904	4	x	=	48	1904	91392	45696
2-KS-33PS	208	2490	2	x	=	48	2490	119520	59760
2-Y'S-31PS	285	3232	2	x	=	48	3232	155136	77568

Device short name	MPPT 60 150
<b>Electrical specifications</b>	
Normal battery voltage	12, 24, 36, 48, 60 V
Battery voltage operating range	0 Volt to 80 Vdc
PV array operating voltage	140 V
Max. PV array open circuit voltage	150 V including temperature correction factor
Max. array short-circuit current	60 A (16 A at 21°C)
Max. charge current	60 A for all battery voltages except 60 V
Max. solar wire size at output	16 AWG to #14 AWG (10 to 2.5 mm²)
Max. output power	3000 W
Charge regulation method:	Three-stage (bulk, absorption, float) plus manual equalization
	Two-stage (bulk, absorption) plus manual equalization
Supported battery types	Flooded, GEL, AGM, Custom
<b>Efficiency</b>	
Max. power conversion efficiency	99% (nominal 12 V), 98% (nominal 24 V), 97% (nominal 36 V), 96% (nominal 48 V), 99% (nominal 60 V)
<b>General specifications</b>	
Power consumption, night time	2.5 W
Battery temperature sensor	Included
Auxiliary output	0–13 V, up to 200 mA
Enclosure material	Anodized, machined, sheet metal chassis with 2.2 cm (0.87 in) and 0.8 cm (0.31 in) knockouts and aluminum heat-sink
IP degree of protection	IP20
Product weight	4.8 kg (10.8 lbs)
Shipping weight	8.0 kg (17.6 lbs)
Product dimensions (H x W x D)	36.5 x 14.6 x 12.6 cm (14.3 x 5.8 x 5.5 in)
Shipping dimensions (H x W x D)	49.3 x 22.9 x 35 cm (19.4 x 9.0 x 13.8 in)
Device mounting	Vertical wall mount
Ambient air temperature for operation	-20°C to 45°C (-4°F to 113°F)
Storage temperature range	-40°C to 60°C (-40°F to 140°F) full power, power derating above 45°C
Operating altitude	Sea level to 3000 m (9842 ft)
System network and remote monitoring	Available
Warranty	Five-year standard
Part number	866-1000-1
<b>Features</b>	
Display type	LCD, 2 lines, 16 digits
<b>Regulatory approval</b>	
CSA	CSA Certified (UL 1741, CSA 107.1) and CE Marked for the Low Voltage Directive (EN50171)
EMC	IEC and Industry Canada (Class B), CE Marked for the EMC Directive (EN61000-6-1, -B-0), C-Tick compliant
<b>Compatible products</b>	
Conext XW+ inverter/charger (230 V)	SW 7148-E product no. 866-7048-E1 SW 8548-E product no. 866-8548-E1
Conext XW+ inverter/charger (230/240 V)	SW 5548-NA product no. 866-5548-N1 SW 6848-NA product no. 866-6848-N1
Conext SW (230 V)	SW 2524 product no. 866-2524-E1 SW 4024 product no. 866-4024-E1 SW 4048 product no. 866-4048-E1
Conext SW (120 V)	SW 2524 product no. 866-2524 SW 4024 product no. 866-4024 SW 4048 product no. 866-4048
Conext System Control Panel	Product no. 866-1050
Conext Automatic Generator Start	Product no. 866-1060
Conext ComBox	Product no. 866-1058
Conext portable installation and configuration tool	Product no. 866-1150-01

Quotations are subject to change without notice.

# Conext MPPT 60 150 solar charge controller

## MPPT multi-stage charging, better battery life

The Conext™ MPPT 60 150 is a PV charge controller that tracks the maximum power point of a PV array to deliver the maximum available current for charging batteries. When charging, the MPPT 60 150 regulates battery voltage and output current based on the amount of energy available from the PV array and state-of-charge of the battery.

### Why choose Conext MPPT 60 150?

#### Higher return on investment

- Maximum Power Point Tracking (MPPT) algorithm continually seeks the maximum power available from the PV array
- Improve battery life with selectable multi-stage temperature compensated charging
- Five-year standard warranty

#### Flexible

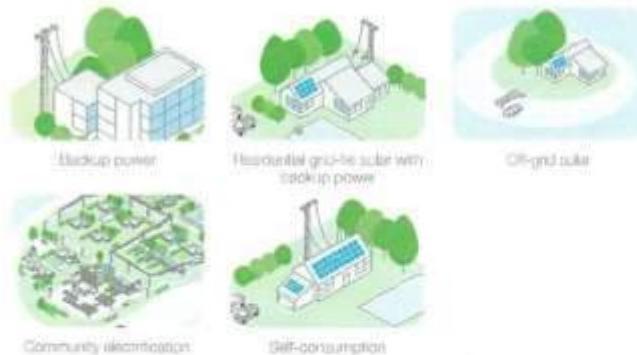
- Stand-alone application or full integration with Conext XW and Conext SW inverter/charger system
- Compatible with any brand of PV Module
- Available remote monitoring and configuration

#### Easy to install

- Configurable auxiliary output
- LCD screen with face plate buttons for configuration and system monitoring
- Integrated PV ground fault protection for negative grounded arrays



### Product applications



# REASONS

## to consider Renewable Energy Systems

- **Renewable Energy Systems sets itself apart** with the philosophy of designing and selling functional systems—not parts and pieces. Our systems are individually fitted to your specific load needs, designed for future expansion with little or no obsolescence, and catered around your finances and budget.
- **Our design and evaluation services** minimize potential problems. Our experienced technicians can help you avoid many of the pitfalls and mistakes that we and others have made or are aware of.
- **We sell only top quality products** that are proven to work in Alaska. There are numerous shopping websites and catalog sales outlets from which you can purchase a host of renewable energy products. Unfortunately, many of these items are not compatible and do not work in our Alaskan environment.
- **As an Alaskan business** with locally stocked and competitively priced inventory, we offer hands on shopping, training, and many working displays for your evaluation and review.
- **Renewable Energy Systems hosts** public, dealer and customer educational meetings, school field trips and seminars, and other events principally centered on renewable energy efforts and education.
- **We have extensive experience** in evaluation, design, installation and servicing of systems in the Alaskan environment. Before, during, and particularly after your purchase from Renewable Energy Systems, you may expect our professional staff to be available to assist you in technical and supportive needs.
- **Our installations comply** with National Electric Code Standards. As an Alaskan bonded and licensed Specialty Contractor, Renewable Energy Systems utilizes administrators and licensed electricians to oversee installations. Site visitation and evaluation is available upon request.
- **Renewable Energy Systems historically** has sold most of its systems through a word-of-mouth basis. Past and present customers are predominantly satisfied with the overall performance of designed, purchased and installed systems. An exhaustive referral list is available upon request.
- **We value long-term customer relationships** and strive to earn your trust and business.  
We appreciate your consideration in using our products and services.



[renewablealaska.com](http://renewablealaska.com)

RES Anchorage  
145 West Dimond Blvd  
Anchorage, AK 99515  
907-561-7941

RES Fairbanks  
1698 Airport Way  
Fairbanks, AK 99701  
907-458-8000



## Renewable Energy Systems

*Harnessing Alaska's renewables through the use  
of solar, wind and hybrid energy systems.*



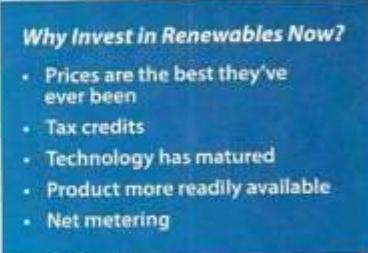
We specialize in innovative systems that blend appropriate energy sources into reliable, cost effective and long lasting systems tailored to each customer's individual needs. Our systems can be found in some of the most remote and isolated regions across the state, in businesses, homes, cabins, RV's, boats, lodges, and at remote communication sites.

We set ourselves apart with a philosophy of designing and selling complete and functional energy systems, not just parts and components. Look to us for:

- Complete system design and specification
- Renewable energy solutions for extreme environments
- Support in assessing site conditions and load requirements
- Selection of the optimal technologies and products to meet your needs
- Quality products that perform well in Alaska's unique environment
- System installation and startup
- Ongoing support and service for your system

### Visit our stores located in Anchorage and Fairbanks

View our locally stocked and competitively priced inventory; check out our working displays. Meet with our helpful and informed staff on your large or small renewable energy project. Take advantage of workshops and training to help you better understand and maintain your renewable energy system.



#### RES Anchorage

145 West Dimond Blvd  
Anchorage, AK 99515  
907-561-7941



#### RES Fairbanks

1698 Airport Way  
Fairbanks, AK 99701  
907-458-8000



[renewablealaska.com](http://renewablealaska.com)

# Have you signed up to support YOUR Radio Club?



Here are two ways you can help fund our Anchorage Amateur Radio Club. Both are really easy on your part. Please consider doing both options, if you haven't signed up, please do.

## **Fred Meyer will give us money!**

All you have to do is shop there and sign up AARC as your non-profit beneficiary. Once you sign up, a portion of every purchase you make is donated to AARC. There is no increase to you for your purchase by declaring AARC as your beneficiary. Currently there are three individuals signed up for this worthy cause. Let's see if we can make it 100%.

You still earn your Rewards points, Fuel Points, and Rebates just as you do today.

The AARC's Fred Meyer non-profit number is UB064.

If you don't have a Fred Meyer Reward Card, they are available at their service desk.

Tell your family, friends and neighbors about this opportunity too.

(Fred Meyer can be done via Internet)

## **Amazon Smile will give us money!**

If you do shopping on-line at Amazon, you can designate AARC as your charitable organization. Amazon will donate 0.5% of your purchase to AARC. Log-on to:

[https://smile.amazon.com/  
ch/23-7225693](https://smile.amazon.com/ch/23-7225693)

For more information.

## **AARC is Accepting Credit Cards!**

AARC can accept your credit card for payment of dues and donations. See Kent Petty KL5T at the next club meeting, club working Wednesdays or Board meetings.

Now may be the time to renew your membership; don't forget!

Thanks Kent KL5T, for setting this up!!





# Monthly Events

**1st Thursday each month:** AARC general meeting - **7:00 PM** in the Radio Science and Operations Center (RSOC) Building at 6721 Raspberry Road, Anchorage. Talk in will be on 147.34/94 repeater or 146.49 Anchorage simplex talk frequency.

**1st Thursday each month:** Moosehorn Amateur Radio Club General meeting - **7:00 PM** Location changes, contact George Van Lone KL7AN [donnav@acsalaska.net](mailto:donnav@acsalaska.net) for information . Call for directions on 146.88 repeater (no tone). Moosehorn ARC also holds a weekly luncheon every Thursday, locations and times change, contact George Van Lone, KL7AN: [donnav@acsalaska.net](mailto:donnav@acsalaska.net)

**2nd Saturday each month:** PARKA (Polar Amateur Radio Klub of Alaska) Meeting at **11:00 AM**. Polar Amateur Radio Klub of Alaska. All amateurs welcome. Some business is discussed. Originally established as an all woman organization, membership now includes spouses or significant others. Talk in on 147.30+.

**2nd Saturday each month (except for holidays):** VE License Exams at **2:00 PM**. at the RSOC, 6721 Raspberry Road. Be sure to bring a government issued photo ID, a copy of your current license (if any) and any Certificates of Successful Completion of Examination (CSCE). Contact: Lara Baker, AL2R ([president@kl7aa.org](mailto:president@kl7aa.org))

**3rd Tuesday each month:** AARC Board Meeting at **7:00 PM** at the Radio Science and Operations (RSOC) building. All members are invited and encouraged to attend.

**1st Tuesday of each month:** EARS general meeting at **6:00 PM**. EARS meetings are held at the EARS shack location. Contact info - Pete Pritchard KL7IS for more information ([email president@kl7air.us](mailto:president@kl7air.us)) EARS: 552-2664 (recording); Talk in on 146.67-. Email: [club@KL7air.us](mailto:club@KL7air.us) or Ron Keech KL7YK (Station Manager) [kl7yk@arrl.net](mailto:kl7yk@arrl.net)

**4th Saturday of each month:** Valley VE Testing at **7:00 PM**. Sessions will be held at the Red Cross Office at 7 pm on the fourth Saturday of each month unless it is a major holiday weekend. Contact Ken Hudson, KL2HF, [Kenputer@hotmail.com](mailto:Kenputer@hotmail.com) or 907-354-0206.

**The last Friday each month:** MARA meeting at **7:00 PM**, St. Johns Lutheran Church Basement. Talk-in help for the meeting can be acquired on the 147.33 repeater. Further details can be found by contacting Don Bush, KL7JFT, [dbush@gci.net](mailto:dbush@gci.net).

## Active Nets in Alaska

### VHF NETS

The local VHF Nets have a Packet side as well. Look for 2 meter Packet at 145.01 (Eagle) and 147.96 (Valley). The Eagle and Valley nodes provide a "talk" or chat function. Also, if you are unable to connect directly to one of the nodes, try digipeating through EARS on either frequency. Do this by typing **c eagle v ears** or **c valley v ears** on the appropriate frequency. Check [www.KL7AIR.us](http://www.KL7AIR.us) for more information on the digipeaters.

**ARES Net:** 147.33 w/ 103.5Hz tone (Backup 147.30 w/ 141.3Hz tone) —Thursdays at 8:00PM

**No Name Net:** 146.43 simplex—Sundays 8:00PM

**South Central Simplex Net:** Meets on 146.52 FM then shifts to 144.2 USB, 446.0 FM, 432.2 USB, 223.5 FM, 927.5FM, 1294.5 FM, 52.525 FM, 50.125 USB, 29.6 FDM, 28.4 USB, 145.01 Packet (Eagle Node), 147.96 Packet (Valley Node) - Wednesdays 8:00PM

**Alaska VHF Up Net:** 144.200 USB—Saturdays 9:30 AM

**Alaska Morning Net:** The Alaska Morning Net is held Monday through Saturday from 9:00 AM—11:00 AM on the IRLP Reflector 9109. This net can be reached via several hosting nodes in the area. Please visit [www.status.irlp.net/index.php?PSTART=2&mode=3](http://www.status.irlp.net/index.php?PSTART=2&mode=3) to find the closest node. Also the net can be reached via EchoLink on 9191 (WL7LP-R) and Allstar nodes 27133 and 29332. The Alaska Statewide ARES net is held on Thursday evenings at 8:30pm (following the Anchorage ARES net) at the same locations and also the 8:30pm Sunday evening Alaska Statewide Radio Link.

### HF Nets

**Alaska Snipers Net:** 3.920 MHz 6:00pm daily

**Alaska Bush Net:** 7.093 MHz 8:00pm daily

**Alaska Motley Net:** 3.933 MHz 9:00pm daily

**ACWN (Alaska CW Net):** 3540 kHz, 7042 kHz, 14050 kHz Non-directed, CW calling and traffic watch for relaying NTS of other written traffic. AL7N monitors continuously receivers always on WL2K. (RMS connection available— [AL7N@winlink.org](mailto:AL7N@winlink.org))

**Alaska Pacific Emergency Preparedness Net:** 14.292 MHz 8:30am M-F

**ERC HF Net:** 3.880 MHz 8:30pm Sundays

DATA YOU CAN USE				
Frequency	Tone	Callsign	Features	Area
147.18-	88.5	ADES		JBER
146.88-	no tone	AL7LE	Phone patch	Kenai/Soldotna
146.82-	103.5	WL7CWE	IRLP	Anchorage
146.76-	123.0	KL3K	IRLP	Seward
146.94-	103.5	KL7AA		Anchorage, Wasilla, Northern Kenai
224.94-	no tone	KL7AA		Anchorage, Wasilla, Northern Kenai
444.70+	103.5	KL7AA		Anchorage, Wasilla, Northern Kenai
146.67-	103.5	KL7AIR	MARS station	Anchorage & Highway N
147.30+	141.3	KL7ION		Anchorage, Wasilla, Northern Kenai
146.85-	103.5	KL7JFU	Cross Banded to 444.600	Mat Valley
444.6+	103.5	KL7JFU	Cross Banded to 146.85	Mat Valley
146.91-	no tone	KL7PM		Homer
147.15+	107.2	NL7S		Wasilla
147.84-	103.5	WL7CWE		Wasilla repeater
147.33+	103.5	WL7CWF	Cross linked to 443.900	Very Wide Area
443.900+	103.5	WL7CWF	Cross linked to 147.33	Very Wide Area

#### South Central Area Simplex Frequencies

146.52	National Calling and Emergency Frequency
147.57	DX Spotting Frequency
146.49	Anchorage Area Simplex Chat
146.43	Mat-Su Valley Simplex Chat
147.42	Kenai Peninsula Simplex Chat

#### WinLink Information

144.91	WL7CVG-10	Anchorage Area RMS, 1200 baud
145.19	KL7JFT-10	Palmer/Mat-Su RMS
144.91	WL7CVG-4	South Central Digipeater, 1200 baud
144.97	KL7AA-10	Anchorage Area RMS, 1200 baud
223.66	WL7CVG-10	Anchorage Area RMS, 9600 baud
441.175	WL7CVG-10	Anchorage Area RMS, 9600 baud

If you have anything you'd like included in the next newsletter such as items for sale, articles, questions, etc.

email [editor@kl7aa.org](mailto:editor@kl7aa.org)

### **AARC BOARD/Officers and Directors**

President 2020	Lara Baker AL2R	president@kl7aa.org
Vice-President 2021	T.J. Sheffield KL7TS	vicepresident@kl7aa.org
Treasurer 2021	Kent Petty KL5T	treasurer@kl7aa.org
Secretary 2020	Dave Webb N9AIG	secretary@kl7aa.org
Board 2019		
Board 2020	Alice Baker KL2GD	Alice.baker@kl7aa.org
Board 2020	Wigi Tozzi KL0R	Wigi.Tozzi@kl7aa.org
Board 2020	Mathew Notte WL4DX	notte142@gmail.com
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Board 2021	Keith Clark KL7MM	trustee@kl7aa.org
Board 2022	Walter Yankauskas KL7WY	
Board 2022	Matt Ostrander KL4QH	kl4qh@kl7aa.org
Board 2022	Rich Gillin AL4S	Rich.gillin@kl7aa.org

### **AARC FUNCTIONAL MANAGERS**

APRS	Kevin Opalka KL2NV	
Activities	VACANT	activities@kl7aa.org
Trustee	Keith Clark KL7MM	trustee@kl7aa.org
Newsletter Editor	Morgan Schoenecker KG7SEQ	editor@kl7aa.org
Membership	Rich Gillin AL4S	membership@kl7aa.org
VE Testing	Kent Petty KL5T	ve@kl7aa.org
Webmaster	Rich Gillin AL4S	webmaster@kl7aa.org
Internet/Network	Rich Gillin AL4S	ip@kl7aa.org
MESH Network	Kent Petty KL5T	mesh@kl7aa.org



## Support Amateur Radio in Anchorage, Alaska

Donate online or mail this coupon to AARC, PO Box 190192, Anchorage, AK 99519

Online donation is convenient and secure at <https://kl7aa.org/>, select donations at the top right of the home page.

Name: \_\_\_\_\_

I want to make a one-time general donation  
 \$25  \$50  \$75  \$100  \$250  \$ \_\_\_\_\_

Address: \_\_\_\_\_

I want to make regular monthly donations. Thank you for your ongoing support! Indicate the monthly amount:  
 \$25  \$50  \$75  \$100  \$250  \$ \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

I want to sponsor a specific project/program.  
Sponsorships are \$25 monthly  
 Please send me a supply of donation envelopes  
 Please charge my credit card below

Phone: \_\_\_\_\_

Total donation: \$ \_\_\_\_\_

Email address: \_\_\_\_\_

Check or money order enclosed  
 VISA  MasterCard Exp: \_\_\_\_\_ CVV code: \_\_\_\_\_



Why donate? The Anchorage Amateur Radio Club is a nonprofit organization (501C3) that supports community program communications such as the Anchorage RunFest, Walk and Roll for Hope, the Dog Jog, Tour de Cure, Alaska Run for

Women, The Women's Gold Nugget Triathlon and Team Rubicon. We also periodically practice our emergency communication skills in case of a major disaster such as an earthquake. Our equipment is both battery and generator backed up. We are run only by donations and volunteers. Please donate to this worthy organization.

Account # \_\_\_\_\_

Signature: \_\_\_\_\_

I would like to be kept up to date on AARC activities; please send me your monthly newsletter